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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/NO 2003/000238	International filing date (day/month/year) 04.07.2003	Priority date (day/month/year) 05.07.2002
International Patent Classification (IPC) or national classification and IPC A62C 2/06, E04B 1/94, E06B 5/16		
Applicant Jensen, Geir		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 4 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
 - ☒ (sent to the applicant and to the International Bureau) a total of 1 sheets, as follows:
 - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - ☐ (sent to the International Bureau only) a total of _____ (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

Date of submission of the demand 22.01.2004	Date of completion of this report 22.09.2004
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer Beata Slusarczyk/Els Telephone No. +46 8 782 25 00

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/NO 2003/000238

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-5 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- pages _____ as originally filed/furnished
- pages* _____ as amended (together with any statement) under Article 19
- pages* 7 received by this Authority on 2004-08-10
- pages* _____ received by this Authority on _____
- ☒ the drawings:
- pages 1 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/NO 2003/000238

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-8</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-8</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-8</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

The claimed invention relates to a fire blocking device for preventing transfer of flames through ventilating apertures or similar passages, in openings for thermal fire ventilation, in ducts, in process plants or in vented facade exteriors.

The object of the invention is to create a passive fireblocking device for air passages, which instantly, i.e. from the first millisecond and until the openings are shut, can prevent fire from spreading via the air passage from one area with a fire, to a room, duct or other building or machine voids, where fire can cause damage and/or spread further to other and vulnerable areas with combustible materials that can spread a fire.

Of the documents cited in the International Search Report, the following will be discussed:

D1) DK 140856 B
D2) WO 0236207 A1

The documents cited in the International Search Report represent the general state of the art.
The invention defined in claims 1-8 is not disclosed by any of these documents.

.../...

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: V

The cited prior art does not give any indication that would lead a person skilled in the art to the claimed fireblocking device for preventing transfer of flames through ventilating apertures or similar passages, in openings for thermal fire ventilation, in ducts, in process plants or in vented facade exteriors. The permeable flame blocking and heat absorbing and heat accumulating grille body stops flames during instant and constant flame impact in the initial phase of flame impact. The permeable element contains and/or incorporates an intumescent material, for permanent fire stopping in the last phase of the flame impact period.

Therefore, the claimed invention is not obvious to a person skilled in the art.

Accordingly, the invention defined in claims 1-8 is novel and is considered to involve an inventive step. The invention is industrially applicable.

Revised Claims:

1. Fireblocking device (11) for preventing continuously in a flame impact period the transfer of flames through ventilating apertures or similar passages, in openings for thermal fire ventilation,
5 in ventilation ducts, in process plants or in vented facade exteriors, **characterized** by
 - at least one permeable flame blocking and heat absorbing and heat accumulating grille body (13) to stop flames during instant and constant flame impact in the initial phase of flame impact, and
 - at least one permeable element (12) containing and/or incorporating an intumescent
10 material, for permanent fire stopping in the last phase of the flame impact period.
2. Fireblocking device according to claim 1, **characterized in** that the heat absorbing and heat storing body (13) is three-dimensional.
- 15 3. Fireblocking device according to claim 2, **characterized in** that it is shaped as a cylinder.
4. Fireblocking device according to claim 3, **characterized in** that the heat absorbing and heat storing body (13) can contain metal pipes filled with liquid, minerals or mixes of these materials as main element.
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5. Fireblocking device according to claim 4, **characterized in** that the heat absorbing and heat storing body (13) comprises honeycomb-patterned sheet-metal, which can be arranged into a frame, which includes a thermal break.
- 25 6. Fireblocking device according to one of the claims 1-5, **characterized in** that the heat adsorbing perforated body (13) is positioned downstream of the semi-open element (12), and which contains intumescent material, positioned towards the flame front.
7. Fireblocking device according to one of the claims 1-6, **characterized in** that it is provided as
30 sheet material.
8. Use of a fireblocking device according to the invention in vents in walls, bulkheads, tanks, ducts, openings for natural ventilation, in processing plants, vented facade exteriors, vented fire blankets, vented fire protective safety curtains or vented protective screen against explosions.